

## Organic and Inorganic Elements of Cereal Grain.

All cereal grain is composed both of organic and inorganic substances. The germination of seeds, the growth of the plants and the fructification of the seed all depend on certain organs denominated the organic structure of the plants. The inorganic elements consist of those substances which are sometimes alluded to as the mineral parts or atoms. Some writers employ the term vegetable in lieu of organic, and mineral in preference to inorganic. A writer in the *Scientific American* states that growing plants require two kinds of food, vegetable and mineral, or rather organic and inorganic, as the former constituents are also to be obtained from animal matter, and the inorganic matter is found in the soil and in air.

Analytical chemists assure us that of the mineral or inorganic matter of cereals, water constitutes fourteen per cent., while the principal constituent of wheat, phosphoric acid is present to the extent of 49.91 per cent., potash being 31.30 and silica only 3.71. The silica of wheat is identical with the widely diffused silica of sand and flints, and is combined in cereal products with alkali, in which it is soluble. Silica, taken alone into the animal system, would pass directly through the bowels. Hence, to secure its assimilation to the human body, it must be connected with potash or soda. But it can be recovered from its solutions by putting nitric acid in the mixture, when it will separate in the form of solid flint. The ash of some wheat contains nearly ten per cent. of silica. Silicate of potash may be seen in the glaze on straw. Phosphorus and lime are the chief bone making elements in cereals, bones being nearly one half composed of phosphate of lime. Artificial phosphates of lime are largely used as manure for wheat. There are two kinds of phosphate, soluble and insoluble. The insoluble phosphate takes years to decompose; therefore, in order to grow wheat by it, it must be converted into soluble phosphate, such as the super-phosphate familiar to our agricultural readers.

Wheat, oats, rye, barley and Indian corn are cereals which yield all the principles requisite to build up the human frame. Some other plants make fat-forming matter. Others merely afford acids, which assist the digestion of food. Among the latter are the various fruits, particularly the grape, so much recommended to the invalid, the acid of the grape being the active agent. But in wheat and oats, barley and rye, we meet with every substance necessary for the staff of human life. If we take a grain of wheat or other cereal and burn it in a gas flame we find that only a portion of it is consumable. The unconsumable portion that remains is termed the ash, which is the mineral or inorganic portion. The consumable portion is organic or combustible compound of vegetable matter, the proportion being ninety-four per cent. of principally vegetable matter, and from one to six per cent. of mineral matter. The organic constituents of wheat, oats and other grain are the woody fibre, starch, sugar, gum and oil, and after these the two nitrogenous substances, the albumen and the gluten, which contain large quantities of nitrogen, these latter being the flesh-forming substances in wheat. The others are the fat-forming substances. The mineral ash contains the constituents which are necessary for building up the structure of men and animals.—*N. Y. Herald*.

### Met His Obligations.

The Troy (N. Y.) *Times* relates the following of the Hon. Chauncey L. Filley, formerly of that city, and now Postmaster of St. Louis: "Engaged in the mining business was a friend, who had plenty of enterprise and but little money. Filley had unbounded confidence in him, and when the friend wanted an indorsement for his notes Mr. Filley became his surety, whenever requested, without keeping any record of the amount of money he was holden for. Eventually the mining friend failed, and these notes were presented to Mr. Filley for payment. Of course his surprise was great, but the fact gave him no anxiety, for he did not think the indorsements would amount to over \$100,000, and he could easily pay that from his ample fortune. One hundred thousand dollars of notes were soon presented, and promptly paid, but they did not stop coming until they amounted to \$200,000. To pay this would make Mr. Filley a bankrupt. In fact he had not the means to pay the entire claim, and he saw no way out of his dilemma at first but to go into bankruptcy, and this he decided to do. Pride restrained him, however. He had a business reputation second to that of no one in St. Louis, and, after mature deliberation, he decided that he would ask for a chance to pay his full indebtedness. He told his creditors that he could make more out of his property than if it was disposed of at auction, and he was given an opportunity to prove his assertion. He paid \$500,000 down, and resumed business with renewed vigor and energy, and to-day the full amount, nearly \$1,000,000, lost by over-confidence in a friend, has been paid, with the exception of about \$50,000, and Mr. Filley is abundantly able to pay that. The result shows what indomitable energy, pluck, and perseverance can do when employed in the right direction."

## SEASONABLE RECIPES.

**Pound Cake.**—To a pound of sifted sugar add a pound of fresh butter, and mix them with the hand 10 minutes; put to them 2 yolks and 5 whites of eggs well beaten; whisk all well, and add a pound of sifted flour, a few caraway seeds, 4 pounds of candied orange-peel or citron cut in slices, a few currants washed and picked, and mix all together as lightly as possible.

**Wine Jelly.**—Soak 1½ ounces of Cox's gelatine in a pint of cold water an hour before using; add the juice and pulp of two lemons, and 1½ lbs. of sugar; then pour on 3 pints of boiling water, and stir it well. If you wish the jelly stiff enough to mold, use only 2 pints of boiling water. Add a pint of sherry wine, or half a teacupful of brandy, poured into the pint measure and then filled up with sherry wine. Put all through a jelly strainer. Another. Soak an ounce and a half of Cox's gelatine in a pint of cold water for an hour; then add the rind and juice of 2 lemons, 2 lbs. of sugar, 2 pints of boiling water, a pint of sherry wine, and strain.

**Remedy for Chapped Hands.**—Many persons suffer discomfort from their hands becoming rough and chapped in the winter season, and are accustomed to use various articles, such as honey and glycerine to prevent it. At the same time one very simple matter is overlooked. To keep the hands smooth they should always be rinsed in fair water, after soap has been used. It is well to use soap, and soft, warm water, avoiding, however, the use of yellow or bar soap, and also the colored Castile; but to prevent roughness it is absolutely necessary that the hands should be rinsed in soft, fair water, and then made thoroughly dry on the towel. And it is well to avoid going out into the cold directly after washing.

**Chicken Salad.**—Take the meat from a pair of boiled chickens. Chicken, as well as celery, should be cut as large as a cranberry. Have equal quantities of chopped chickens and celery—if anything, more of the celery. Take a level teaspoonful of dry mustard and rub it very smooth with the yolks of 4 hard boiled eggs, and the yolks of 2 raw eggs. Then pour on very slowly, stirring all the time, one-third of a large bottle of salad oil; alternating with the juice of one large lemon, or two smaller ones; then add a large tablespoonful of salt and 2 or 3 tablespoonsfuls of rich cream. Just before serving, mix the chicken well through the dressing; then add the celery. You may garnish the top with the tender leaves of the celery, very thin slices of lemon, a few capers here and there, and half a dozen stoned olives. Some add half a teaspoonful of cayenne pepper to the dressing, while others object to it.

**Chicken Croquettes.**—Take the meat from two well boiled chickens, rejecting all the gristle and skin; chop it very fine. Take half a can of mushrooms, using some liquor also; if you have them, two or three good sized truffles are an addition; a little parsley and one very small onion—all to be chopped separately, very fine; into a farina boiler put 4 pounds of butter, with the chopped onions, to stew until soft. Care must be taken not to let the butter get brown. Take it from the fire and add 4 tablespoonsfuls of flour, after it has been rubbed perfectly smooth with some milk. Put it on the fire again, and add a pint of cream, or rich milk, the mushrooms and parsley. Stew it until it makes a rich cream sauce; then add a large tablespoonful of salt, 1 teaspoonful of pepper, and the same of grated nutmeg. Stir in the chickens, and keep it on the fire until it gets hot through and well mixed. Take it from the fire, and stir quickly into it the beaten yolks of 2 eggs. Spread it on a big meat plate, and set aside to get cold and stiff. Sift some stale bread crumbs through a fine colander; beat the whites of the eggs with 2 whole eggs on a large dinner plate; take a small tablespoonful of the chicken, drop it into the bread crumbs, and form it with bread crumbs into any shape you fancy; roll it in the egg, and again into the bread crumbs. With your largest iron cooking spoon or strainer, lay it gently in hot, boiling lard to fry; the lard must be deep enough for it to swim: as soon as it gets a rich, golden-brown color, take it out. Some people add sherry wine in making croquettes.

### What is Good Grape Culture.

A friend joyfully told us a few days ago of his anticipations in the grape way. He had bought a little place in the vicinity, and had made up his mind to have things right. His maxim was that what was worth doing at all was worth doing well, and he meant to do it. He had dug out the dirt three feet deep into the clay, and had filled it with light, rich compost through which the roots might push their way in ease and comfort, and live on the fat of the land. He had done his work well.

It is strange that such a course as this should ever have been recommended by horticultural writers, but it is a fact that they have. Grapes are now so easily and cheaply grown—fruit often five cents a pound—that we had well-nigh forgotten that this was the standard advice of the books years ago. But our friend produced it in black and white from the pages which he had chosen as an authority, and then we knew how it was in the old time.

The Rev. Moody admits that it takes four times as long to convert a man who has money out at usurious interest as it does a cultured gentleman who goes home by the alley to avoid his butcher.

grape root needs to be warm and dry, but this deep well in the clay encouraging the collection of water from all around it has just the contrary effect. The roots are damp and cool and not warm and dry.

Indeed, it is only of late years, when people have given up this expensive foolery, that grape culture has become a tolerable success. Under the old plan we had failure after failure and we came to believe that only those varieties which were little removed from the wild fox or frost grapes could be grown, but now we have the finer kinds getting quite common. As soon as we gave up this deep-trenching nonsense, grape culture—real grape culture—took a fresh start, and this real culture consists in a little more than planting a vine in good earth, as we would any ordinary tree, and see that it does not suffer for want of food. This is good grape culture in a nutshell.—*Germantown Telegraph*.

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**O W R E S O N E** condition of humanity!

How many wretched homes in our land! How many heartbroken invalids! Life with many signifies a mere precarious existence. All are subject to disease, but when health is removed the hope is nearly gone out. Sickness is usually incurred through exposure or carelessness. Especially is this true with those diseases peculiar to women. Through her own imprudence and folly she is made to drag out a miserable existence—a source of anguish and anxiety to her friends, and anything but a comfort and pleasure to herself. Exposure to the cold at times when she should be most prudent, and overtaxing her body with laborious employment, are both fruitful causes of many of the maladies from which she suffers. Gradually the bloom leaves her cheeks, her lips grow ashy white, her vitality departs, she continually experiences a feeling of weariness and general languor, and altogether presents a sallow appearance. What does she need? Should she take some stimulating drug, which will for the time make her "feel better," or does her entire system demand repair? She requires something which not only will restore to health the diseased organs, but will tone and invigorate the system. Dr. Pierce's Favorite Prescription will do this. It imparts strength to the diseased parts, brings back the glow of health, and restores comfort where previously there was only suffering.

Every invalid should send for "The People's Common Sense Medical Adviser," in which over sixty pages are devoted to the consideration of these diseases peculiar to Women. It will be sent, postpaid, to any address, for \$1.00. Address K. V. Pierce, M. D., World's Dispensary, Buffalo, N. Y. Agents wanted to sell this valuable work.

### How Doctors Differ.

A patient has a dull, heavy feeling about the head, with a dizzy, whirling sensation when rising up suddenly; a bad taste in the mouth, with foul breath, a feeling like a load on the stomach after eating, with faint, all-gone sensations at the pit of the stomach that food will not satisfy; pains about the side, back or shoulder, hands and feet sometimes cold and clammy, alternating with hot flushes, sour eructations from the stomach, even tinged with yellow, blood thick and stagnant, with costive bowels, and all attendant symptoms. One doctor examines the case and calls it liver complaint, another kidney disease, another dyspepsia, and still another impurity of the blood. Now the fact is all of these doctors are right and they are all wrong, because such patients have all of these diseases combined, and the reason such diseases are not cured is because the custom is to treat one of the diseases at a time. While one is being cured, the other gets worse. We should treat the disease with a remedy that will act upon all at the same time. The SHAKER EXTRACT OF Roots (not patent medicine) is so made by the Shakers as to effectually remove all of these distressing symptoms. Sold by A. J. White, 329 Pearl street, N. Y. Agents wanted.

**Schenck's Mandrake Pills.**—will be found to possess those qualities necessary to the total eradication of all bilious attacks, prompt to start the excretions of the liver, and give a healthy tone to the entire system. Indeed, it is no ordinary discovery in medical science to have invented a remedy for these stubborn complaints, which develop all the results produced by a heretofore free use of emetics, a mineral justly dreaded by mankind, and acknowledged to be destructive to the extreme to the human system.

The properties of certain vegetables comprise all the virtues of calomel without its injurious tendencies; is now an admitted fact, rendered indisputable by scientific researches; and those who use the Mandrake Pills will be fully satisfied that the best medicines are those provided by nature in the common herbs and roots of the fields.

These pills open the bowels and correct all bilious derangements without salivation or any of the injurious effects of calomel or other poisons. The excretion of bile is promoted by these pills, as will be seen by the altered color of the stools and disappearance of the sallow complexion and cleansing of the tongue.

ample directions for use accompany each box of pills.

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